SPC8080-MB 1Master to 8 Slave Hub

User Manual

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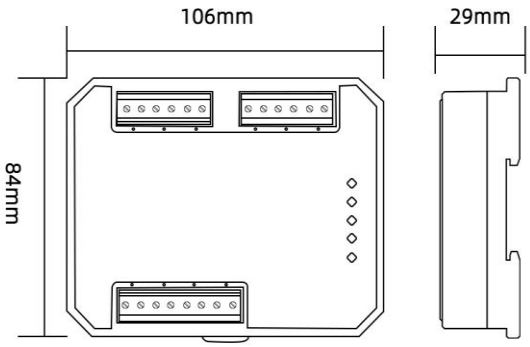
I. Precautions

- Do not operate this product beyond its design limits under any circumstances.
- The power supply for this product is 24V DC. Strictly prohibit the use of 220V AC power.
- This product should be installed in a safe location. The shell's maximum withstand temperature is +85°C.
- When used in environments with strong magnetic interference, Shielded cable is recommended for signal lines.
- Strictly prohibit unauthorized disassembly, modification, or repair of this product.
- Pay attention to the wiring method of this product to ensure correct Wiring and avoid damaging the product.
- Read this manual carefully before installation and use. If you have any questions, please contact our technical support personnel or refer to relevant technical guidance videos.
- Our company is not responsible for damage to components other than this product during use.
- Please download the latest electronic version of the documentation. The content of this manual is for reference only. We continuously improve the user experience, and technical parameters are subject to change without notice.



II. Product Dimensions

- Product dimensions: **106mm (L) X 84mm (W) X 29mm (H)**
- Industrial-grade flame-retardant plastic shell, standard DIN35 rail mounting.

III. Operating Environment

- Do not expose this product to excessively high or low temperatures.
- The surrounding environment must be free from strong vibration, impact, and electromagnetic interference such as large currents and sparks.
- The operating environment must not contain harmful substances that cause severe corrosion to metal or plastic components. Do not use or store the product in harsh environments, otherwise it will affect the electrical performance of the product.
- Operating Temperature: -40℃～+80℃ Relative Humidity: 10% ～ 90%RH (non-condensing)

IV. After-Sales Service

We are committed to providing you with comprehensive after-sales service and warranty policy. The product warranty period is three years. During the warranty period, if the product fails due to non-human factors, we will provide free repair or replacement service. Damage caused by violation of operating regulations and requirements will require payment of parts cost and repair fee. After the warranty period expires, we continue to provide technical support and assistance. During this period, replacement parts are provided at cost price.

V. Application Fields

Automation Equipment

Medical Electronics

Remote Monitoring

Process Control

· Product Introduction

The SPC series communication signal conversion modules are specifically designed for signal interference suppression and signal conversion in industrial environments. Their core functionalities include ground loop isolation, electromagnetic interference elimination, enhanced circuit load capacity, and support for device signal sharing and monitoring. They are widely used in measurement and control systems and various industrial automation applications, including industrial automation, medical electronics, automotive manufacturing, power engineering, petrochemicals, aerospace, railway systems, and PLC-based control systems.

The SPC8080-MB series 1 master to 8 slave RS485 serial communication module incorporates high-speed opto-isolation protection and provides RS485 serial signal distribution to eight independent RS485 channels. When industrial applications require star-topology connections—which may cause communication abnormalities—this RS485 hub resolves such issues by converting the topology while simultaneously amplifying and isolating RS485 signals to extend communication distance.

This product requires a separate power supply and is mounted on a standard 35mm DIN rail, offering simple on-site installation and flexible use, adapting to various field applications.

· Technical Parameters

Basic Parameters	
Power Supply	DC12～36V(DC24V recommended)
Power Consumption	≤60mA @DC24V
Power Protection	Reverse Voltage <-40V
Isolation	DC1500V (input and output)
Insulation Resistance	≥100MΩ (input and output)
EMC Compatibility	Complies with GB/T18268.1 (IEC61326-1)
Applicable on-site equipment	Equipment with RS485 communication interface
Serial Port Parameters	
Input Signal	1 RS485
Output Signal	RS485
Number of Output Channels	8
Signal Level	Standard RS-485 differential level
Transmission Rate	300-230400bps (auto-sensing)
Transmission Delay	<10μs
Operating Mode	RS-485 asynchronous half-duplex differential
Protection level	600W TVS
Communication distance	RS485: 1200m (typical)
Environmental Conditions	
Operating Temperature	-40℃～+80℃
Storage Temperature	-40℃～+85℃
Relative Humidity	10%～90%RH (non-condensing)
Atmospheric Pressure	80kPa～106kPa

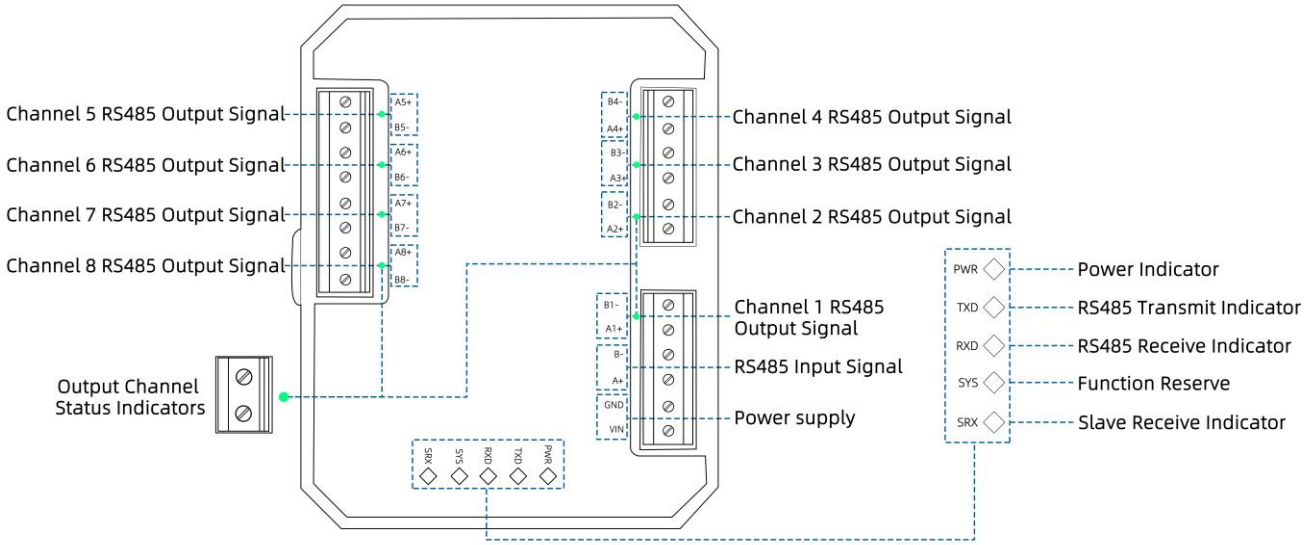
· Indicator Description

Indicator Mark	Function Description
PWR	Power indicator
TXD	RS485 input signal indicator, flashes during data transmission
RXD	RS485 input signal indicator, flashes during data reception
SYS	Reserved function
SRX	Slave unit signal reception indicator

· Terminal Description

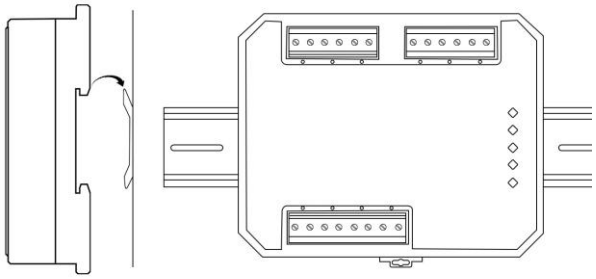
Terminal Mark	Function Description
A5+	Channel 5 RS485 communication output signal positive
B5−	Channel 5 RS485 communication output signal negative
A6+	Channel 6 RS485 communication output signal positive
B6−	Channel 6 RS485 communication output signal negative
A7+	Channel 7 RS485 communication output signal positive
B7−	Channel 7 RS485 communication output signal negative
A8+	Channel 8 RS485 communication output signal positive
B8−	Channel 8 RS485 communication output signal negative
VIN	Power supply positive terminal (DC 12-36V input)
0V	Power supply negative terminal
A+	RS485 communication input signal positive
B−	RS485 communication input signal negative
A1+	Channel 1 RS485 communication output signal positive
B1−	Channel 1 RS485 communication output signal negative
A2+	Channel 2 RS485 communication output signal positive
B2−	Channel 2 RS485 communication output signal negative
A3+	Channel 3 RS485 communication output signal positive
B3−	Channel 3 RS485 communication output signal negative
A4+	Channel 4 RS485 communication output signal positive
B4−	Channel 4 RS485 communication output signal negative

· Wiring and Indication

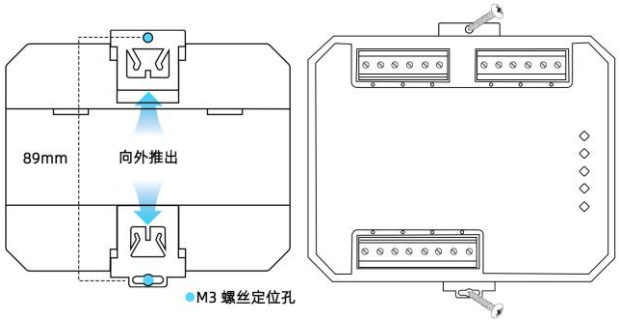


· Installation Instructions

This module uses the DIN35mm rail mounting method. The rail should comply with the installation dimension specifications for the TH35-7.5 type rail according to the national standard GB/T19334-2003. Users can easily install or remove the module on the rail. Installation must be stable and secure. This module also supports screw mounting without a rail.



– Installation method of guide rail –



– Screw installation method –

· Product Naming Rules

For example, the SPC8080-MB11L is a one-master, eight-slave hub communication module with RS485 communication, an M-shaped form factor, and a DC12-36V power supply.

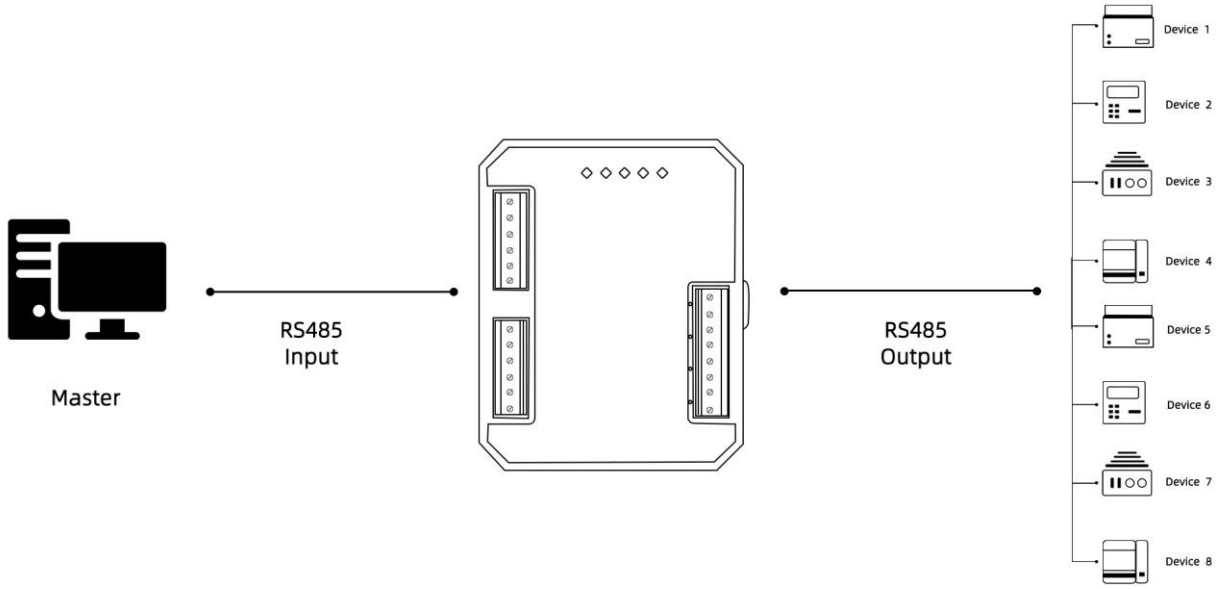
SPC	8	08	0	M	B	1	1	L
Product Type	Comm Type	Conversion Channels	Serial Number	Product Form Factor	Comm Speed	Isolation Level	Output Type	Power Supply
Comm signal conversion module	1 USB 2 ETH 3 Bluetooth 4 WIFI 5 CAN 6 Profient 7 LoRa 8 Serial Comm 9 Other Comm	1-32	0-9	N Form Factor K Form Factor M Form Factor W Form Factor F Form Factor R Form Factor Y Form Factor Q Form Factor S Form Factor	A Speed 200Kbps B High Speed 1Mbps C Ethernet 10Mbps D Ethernet 100Mbps E Other Speeds	0 No Isolation 1 1500V 2 3000V 3 Other Classes	0 RS232 1 RS485 2 Ethernet 3 Bluetooth 4 WiFi 5 CAN 6 Profient 7 LoRa 9 Mixed output	L DC12-36V H AC220V C +12V D +24V U USB Power Supply

· Product Application Expansion

1. Application Expansion 1: Assign a single host serial port to 8 RS485 interfaces.

2. Application Expansion 2: Expand this module to multiple RS485 interfaces, allowing up to 128 RS485 hubs to be connected in parallel on the RS485 output bus.

Application Expansion 1



Application Expansion 2